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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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September 7, 2000

Mr. Keith Klein
U.S. Department of Energy
P.O. Box 550, MSIN: A7-50
Richland, Washington 99352

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EDMC

Mr. Ronald Hanson
Fluor Hanford
P.O. Box 1000, MSIN: H5-50
Richland, Washington 99352

Dear Messrs. Klein and Hanson:

Re: Facility Transition Assessment Report for the **Plutonium Finishing Plant Complex**

Thank you for the assistance of the U.S. Department of Energy (USDOE) and Fluor Hanford (FH) staff during the Washington State Department of Ecology's (Ecology's) assessment of the Plutonium Finishing Plant Complex (PFP) from June 14 through September 7, 2000.

Enclosed is Ecology's PFP Facility Transition Assessment Report. This report summarizes the observations made during Ecology's field visits to PFP and subsequent document review. PFP has no future mission and, as such, is subject to identification of all solid wastes within the facility and subsequent designation of those wastes as dangerous or extremely dangerous wastes per Washington Administrative Code (WAC) Chapter 173-303, Dangerous Waste Regulations. The PFP does not meet many of the regulatory requirements for identifying, treating, storing, or disposing of hazardous wastes.

Ecology understands that USDOE intends to reduce PFP to "slab-on-grade" condition through removal of nuclear materials within PFP, removal of all waste within PFP, and demolition of above ground structures to floor slab levels. Therefore, in consideration of the findings of the PFP facility assessment, and in coordination with USDOE's intentions, Ecology advises USDOE and its contractors that negotiations be initiated between the agencies by June 1, 2001, to establish a milestone series within the Hanford Federal Facility Agreement and Consent Order (HFFACO) for transition of PFP to slab-on-grade status, as described in HFFACO Change Control Form M-83-00-01.

The following is a summary of the more pertinent findings from Ecology's PFP facility transition assessment:

FINDINGS:

1. The PFP Integrated Project Management Plan (HNF-3617, Rev.0) is incomplete and inaccurate.

Materials disposition maps do not reflect current disposition planning for all materials in PFP. Changing conditions for storage at the Savannah River Site may cause some materials scheduled for storage there to be repackaged as waste and shipped to the Waste Isolation Pilot Plant (WIPP) instead. The Integrated Project Plan fails to assess decontamination of processing equipment and waste streams generated from this activity. The Integrated Project Plan fails to assess closure of the 241-Z tank system, the 361-Z tank, 291-Z exhaust system, low level liquid waste treatment system, the 234-5Z piping tunnels, and other functional units within the PFP Complex that directly impact transitioning of the facility to slab on grade.

2. The report, "Update and Status Against the Integrated Project Management Plan; Nuclear Material Stabilization Project, May 2000" has limited application for transitioning of PFP.

The Update and Status Against the Integrated Project Management Plan addresses stabilization of nuclear materials. Ecology recognizes that this plan's purpose is focused on stabilization of nuclear materials stored within PFP; however, many of these materials will be packaged as waste. Many of the materials scheduled in this plan for packaging as waste have not been adequately characterized or designated as hazardous, or extremely hazardous, waste. The plan, by itself, is not adequate to support scheduling for transitioning of PFP to inactive status.

3. The PFP Vessel Inventory is incomplete and inaccurate.

A number of vessels within processing equipment are not listed in the inventory (e.g., tanks within glove boxes, such as in room 235D, 234-5Z Building). Many vessels have not been confirmed empty or have been determined to be empty based on insufficient knowledge.

4. Waste determinations for materials in storage are incomplete and inaccurate.

Some materials in storage have not been examined to determine if they contain plutonium at levels requiring repackaging and storage as waste or product. Some materials in storage do not have specified treatment pathways defined. Some materials streams are not homogeneous and may require special treatment and/or packaging.

5. Designation of materials identified as waste is incomplete.

Many materials identified as waste for disposal at the WIPP have not been designated per WAC 173-303. In many cases, insufficient information exists to designate these materials on the basis of process knowledge alone. Sampling and analysis will be required to meet regulatory requirements for designation and storage of these materials.

6. The PFP Complex shows signs of degradation due to aging and materials hold-up in processing equipment.

Liquid was observed on the floor of glove box MT6 within the 326-Z Building although the vessel inventory states vessels in this area are empty. Source and identification of the liquid remains unknown. Processing lines throughout the 236-Z Building retain unknown quantities of processing liquids, heels, or residues. A liquid filled protective window at the plutonium scrap recovery canyon was shattered from unknown causes and little monitoring of abandoned processing equipment is performed in the PFP Complex.

7. Regulatory requirements for materials in storage, treatment, and stabilization of materials in storage, closure of Resource Conservation and Recovery Act (RCRA) units and transitioning of the PFP Complex to slab on grade are poorly described or undefined.

Due to incomplete waste determinations of waste in storage, future waste generation associated with transitioning, treatment of wastes, storage of mixed wastes beyond 90 days within PFP, and closure associated with existing and/or proposed RCRA treatment, storage, or Disposal (TSD) units have been approached on a piecemeal basis rather than on a comprehensive and integrated basis.

Based on these findings, Ecology makes the following recommendations:

RECOMMENDATIONS:

Transitioning of PFP to inactive status and, subsequently, to "slab on grade" will require a holistic approach. This approach must incorporate not only nuclear materials stabilization, but accurate designation of wastes, identification of all waste disposal pathways, decontamination and disposal of abandoned processing equipment, waste treatment activities, closure of the 241-Z tank system and ancillary equipment, and disposition of waste streams generated through the transitioning process.

Currently, Ecology has not seen an integrated plan for decontamination and disposal of contaminated equipment (glove boxes, hundreds of small to medium size abandoned process tanks, abandoned processing lines with material hold-up in them, and contaminated air handling

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equipment). An updated plan for closure of the 241-Z tank system is needed, including its ancillary equipment, such as transfer piping. The 361-Z tank remediation should be included. A polychlorinated biphenyl (PCB) management plan should be developed for PFP. The low level liquid treatment facility will likely have to go through a closure activity, as will PFP's air handling system. All waste forms destined for treatment must be addressed per applicable regulations. PFP should coordinate with WIPP to establish a schedule of audits to more accurately identify waste disposal requirements and schedules. It is unclear how long vault storage will continue at PFP. Vault storage may be permanent for all practical purposes. Generation of new waste streams as equipment is decontaminated and downsized must be addressed in any integrated transitioning plan.

Further, the PFP Complex is an aging facility with no future production mission. Evidence of degradation of the infrastructure within PFP and prolonged hold-up of chemical and radiological materials in abandoned processing lines and equipment add urgency to removal of such materials and transitioning PFP to truly inactive status.

Therefore, Ecology recommends that a holistic and technically feasible transition plan for PFP that addresses all items listed above be negotiated between the agencies beginning June 1, 2001, as described in HFFACO Change Control Form M-83-00-01.

If you have any questions about this letter or the contents of the enclosed PFP Assessment Report, please feel free to contact me at (509) 736-3031.

Sincerely,



Bob Wilson, Compliance Specialist
Nuclear Waste Program

BW:sb
Enclosure

cc: Doug Sherwood, EPA
Cliff Clark, USDOE
Mary Lou Blazek, OOE
Administrative Record: